

Oil Field Environmental Incident Summary

Incident: 20160617102158 **Date/Time of Notice:** 06/17/2016 10:21

Responsible Party: Henry Hill Oil Services, LLC

Well Operator: HENRY HILL OIL SERVICES, LLC

Well Name: GEORGE TANK 1

Field Name: CAMEL BUTTE

Well File #: 3680

Date Incident: 6/15/2016 **Time Incident:** 07:30

Facility ID Number:

County: MCKENZIE

Twp: 151

Rng: 96

Sec: 27

Qtr:

Location Description:

Submitted By: Robert Coy

Received By:

Contact Person: Jake Burton
120 26th St E.
Suite 200
Williston, ND 58801

General Land Use: Well/Facility Site

Affected Medium: Well/Facility Soil

Distance Nearest Occupied Building:

Distance Nearest Water Well:

Type of Incident: Valve/Piping Connection Leak

Release Contained in Dike: Unknown

Reported to NRC: No

	Spilled	Units	Recovered	Units	Followup	Units
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Oil

Brine

10

barrels

Other

Description of Other Released Contaminant:

Inspected:

Written Report Received: 1/5/2017

Clean Up Concluded: 6/27/2016

Risk Evaluation:

no immediate health hazards

Areal Extent:

30 x 60

Potential Environmental Impacts:

Some affected soil in the area of the spill and also some grass area that could have been affected by rain water carrying the spill through a culvert

Action Taken or Planned:

Spill water was cleaned up immediately and spill area tested and treated with calcium to treat the saltwater will follow up with more soil testing in a couple of months to determine if further action will be needed

Wastes Disposal Location: Waste water was disposed of on site

Agencies Involved: Department Of Health

Updates

Date: 6/17/2016 **Status:** Reviewed - Follow-up Required

Author: Suess, Bill

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

I spoke with the contact from Henry Hill Oil. They thought the release was about 10 bbls and contained. However, heavy rains may have caused some of the brine to migrate off site. NDIC reports some dead grass in the area. Follow-up is required.

Date: 6/22/2016 **Status:** Inspection

Author: O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 12:00. 61 degrees F, mostly cloudy, N wind 15-25 mph. Spoke with well operator and landowner. It appeared that the release occurred within the secondary containment and flowed through a culvert to a drainage area (native grassland) west of the well pad. It appeared that the vegetation had been impacted by production waters (brown and dead) along the drainageway in an area 60 feet wide (nearest the release) narrowing to 5 to 10 feet wide (furthest from the release). Total length was approximately 300 feet. There was no surface water visible along the west-east drainageway until the drainageway intersected with another drainageway flowing north to northwest approximately 1000 feet west of the release. A small depression showed some petroleum sheen and brown/gold color of the water. Using the soil probe, electrical conductivity (EC) values obtained within the release area showed EC values of 10.44 millisiemens per centimeter (ms/cm) to 16.51 ms/cm at depths of 6 to 18 inches. Background values showed EC to be 599 microsiemens per centimeter (us/cm) to 1490 us/cm. Four soil samples were collected within the impacted area to be analyzed for Group 190 analytes, total petroleum hydrocarbons (TPH)-diesel range organics (DRO) and gasoline range organics (GRO). Two water samples were also collected for TPH-DRO, GRO analysis and Group 190 analysis. One was collected from the small depression approximately 1000 feet west of the release, and the second was collected downgradient of the north-west-flowing drainageway. Photos were taken of the release area, well pad and drainageways. Further followup needed.

Date: 6/27/2016 **Status:** Inspection

Author: Wax, Pete

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

George Tank 1, 06-27-2016, on site 14:00. Mostly cloudy, 70 F, NE wind 10-15 mph, nearest water 400'. Project manager Jake Burton was on site. Impacted soils in drainage to the west are being removed. Stealth Testing on site collecting soil to identify impact area and when removal is appropriate. Collected Group 190 and THP-DRO at three sites. Site 1 - upstream 300' of confluence with impacted drainage north of road dam (47.86640 -102.94848): specific conductance of water 1175 microsiemens per centimeter (us/cm). Site 2 - 100' downstream of confluence with impacted drainage way (47.86821 -102.94868): specific conductance of water 5,840 us/cm and sediment 2,810 us/cm. Site 3 - 300' downstream of confluence with impacted drainage and matching the Duke University sampling site (47.86898 -102.95014): specific conductance of water 10,330 and sediment 2,930 us/cm. Collected specific conductance at a fourth site on north edge of Section 27 (47.87579 - 102.95832): specific conductance of water 11,050 and sediments 3,080 us/cm. Off site 19:00.

Date: 6/28/2016 **Status:** Inspection

Author: Wax, Pete

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

On site 13:15. Mostly cloudy, wind SE light, and 76 degrees. Collected additional specific conductance measurements on potentially impacted stream (Sites 5 through 7). Site 5 is on south edge of Section 21 151 96 (47.87705 -102.95827); specific conductance of water is 10,230 and sediment 5,150 microsiemens (us/cm). Site 6 is an additional 800' downstream (47.87895 -102.96030); specific conductance of water 11,280 and sediment 3,840 us/cm. Site 7 is on south edge of Section 20 (47.87704 -102.98358); specific conductance of water 10,200 and sediment 3,650 us/cm. Off site 15:00.

Date: 6/29/2016 **Status:** Inspection

Author: Wax, Pete

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

On site 14:50. 83 degrees, light winds, partly cloudy skies. Collected water quality samples for Group 190 from Site 5 (approximately 3/4 mile downstream), Site 6 (approximately 1 mile downstream), and Site 7 (approximately 3 miles downstream). Collected chloride screening at all three sites. Results were around 400 parts per million (ppm) at all three sites. Off site 16:50.

Date: 7/6/2016 **Status:** Inspection

Author: O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 11:15. 72 degrees F, mostly sunny, south wind 5-15 mph. Collected water samples from eight locations along the drainageway west of the George Tank 1 well pad for Group 190 laboratory analysis.
Sample B-1 was collected at 12:55. Coordinates 47.86672, -102.94844.
Sample A-1 was collected at 13:45. Coordinates 47.86825, -102.94867.
Sample A-2 was collected at 14:15. Coordinates 47.86900, -102.95017.
Sample B-2 was collected at 14:45. Coordinates 47.87327, -102.95226.
Sample A-3 was collected at 15:15. Coordinates 47.87572, -102.95828.
Sample A-4 was collected at 15:45. Coordinates 47.87776, -102.95783.
Sample A-5 was collected at 17:00. Coordinates 47.88836, -102.92429.
Sample A-6 was collected at 17:30. Coordinates 47.87706, -102.98363.
More follow-up needed.

Date: 7/7/2016 **Status:** Inspection

Author: O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived at location at 11:00. 63 degrees F, partly cloudy, west/southwest wind 15-25 mph. Collected one water sample from the drainage west of the well pad and one source water sample from the pump house.

Sample B-3 was collected at 11:35. Coordinates 47.86863, -102.96894.

Second sample was the source water collected at the pump house.

Observed the excavation area and took photos. Area impacted west of the well pad had been excavated and replaced with new soil. Soil probing of the new soil showed electrical conductivity (EC) values anywhere from 500 microsiemens per centimeter (us/cm) to 8000 us/cm at depths of 0 to 6 inches. Further follow-up needed.

Date: 8/4/2016 **Status:** Inspection

Author: O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Arrived on location at 9:00. 61 degrees F, cloudy, northwest wind 15-25 mph. Met with two NDDoH groundwater scientists to collect water samples from selected wells in the area. First sample was collected at a State Water Commission well located at 47.873462°, -103.006739°. Second water sample was collected from a property owner's stock well located at 47.882014°, -102.982749°. A third water sample was collected from a property owner's stock well located at 47.883302°, -102.960234°. A fourth water sample was collected from Demick Lake, coordinates 47.888050°, -103.009250°. Samples were taken to the NDDoH chemistry lab for Group 190 analysis. More follow-up needed.

Date: 9/8/2016 **Status:** Inspection

Author: Wax, Pete

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

On site 14:43, 6/08/2016. Mostly cloudy, 68 degrees with no wind. Planned to sample sites B1 (background), A1, A2, A3 and A6, along the receiving stream. On inspection, only site A2 contained any water. Collected a field specific conductivity reading of 3.55 millisiemens (mS) in the water and 3.38 mS in the sediments at 10 centimeters. Water was then collected for a Group 190 analysis. The pool appeared at approximately the same depth as it was in June, ranging from 4 to 7 inches in depth. The water was clear, and there were macroinvertebrates present. Off site 16:58.

Date: 10/7/2016 **Status:** Awaiting Documentation

Author: O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received hard copies of three location for the 8/23/16 water sampling event. Sampling results were for GW-4 (blank) location, GW-5 location, and GW-7 location. Sample results added to incident folder.

Date: 10/7/2016 **Status:** Awaiting Documentation

Author: O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received hard copy results of 6/27/16 sampling for B-1 location. Sample results added to incident folder.

Date: 1/19/2017 **Status:** Awaiting Documentation

Author: O'Gorman, Brian

Updated Oil Volume:

Updated Salt Water Volume:

Updated Other Volume:

Updated Other Contaminant

Notes:

Received hard copy results from soil sampling event on 6/22/16. Sample results added to incident folder. (DRO = Diesel Range Organics)

Sample 16-C460 collected from 0 to 6 inch depth in impacted area -

DRO results showed 139 ug/g, Bromides at 5.44 mg/L , Chlorides at 917 mg/L.

Sample 16-C461 collected at 6 to 12 inches in depth from same impacted location -

DRO results showed 991 ug/g, Bromides at 2.63 mg/L , Chlorides at 514 mg/L.

Sample 16-C462 was collected at 12 to 18 inches in depth from the same impacted location - DRO results showed 691 ug/g, Bromides at 2.40 mg/L , Chlorides at 460 mg/L.

More followup needed.